

Figure 1

Basal Expression of Cardiac-Related Genes in USSCs

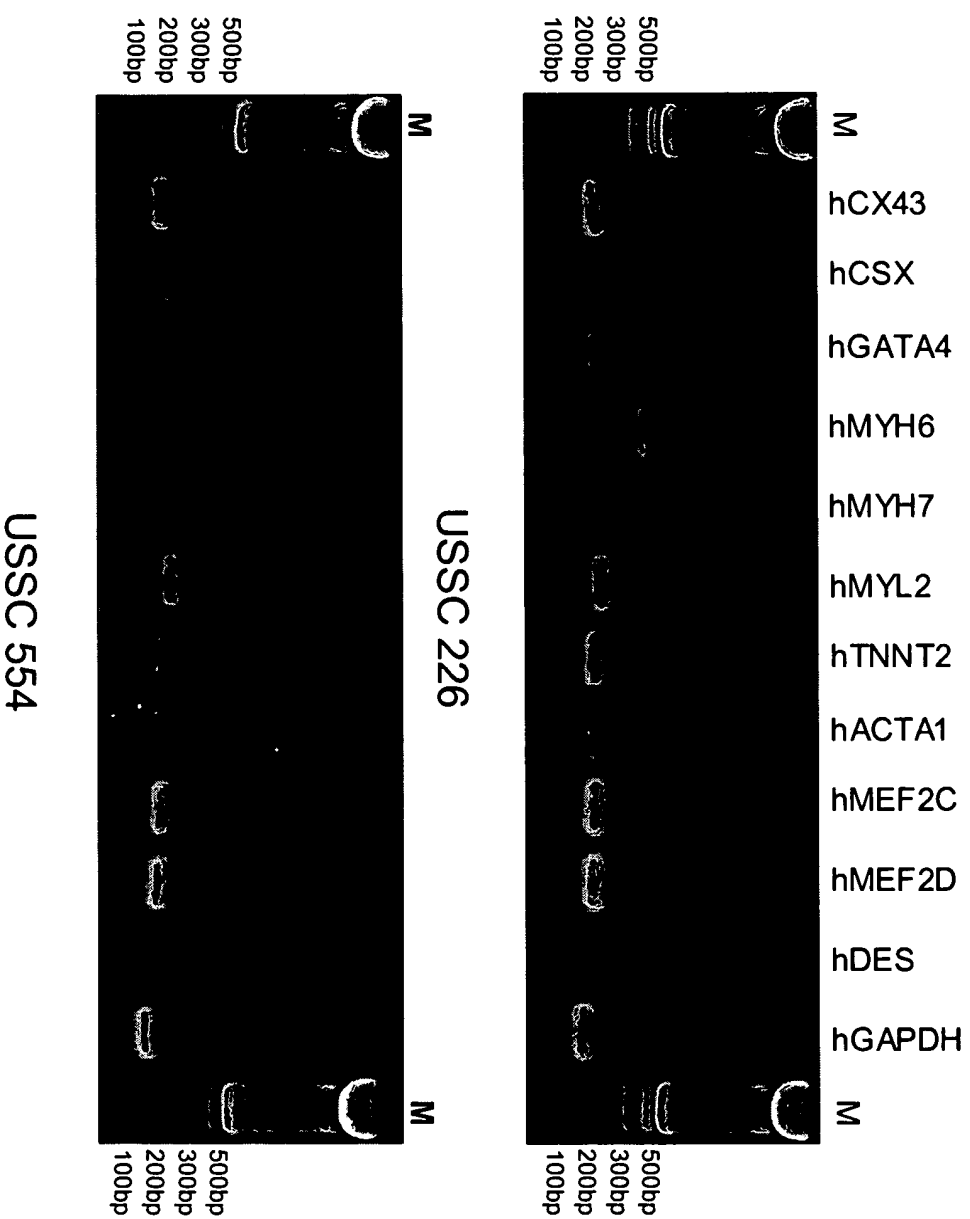


Figure 2

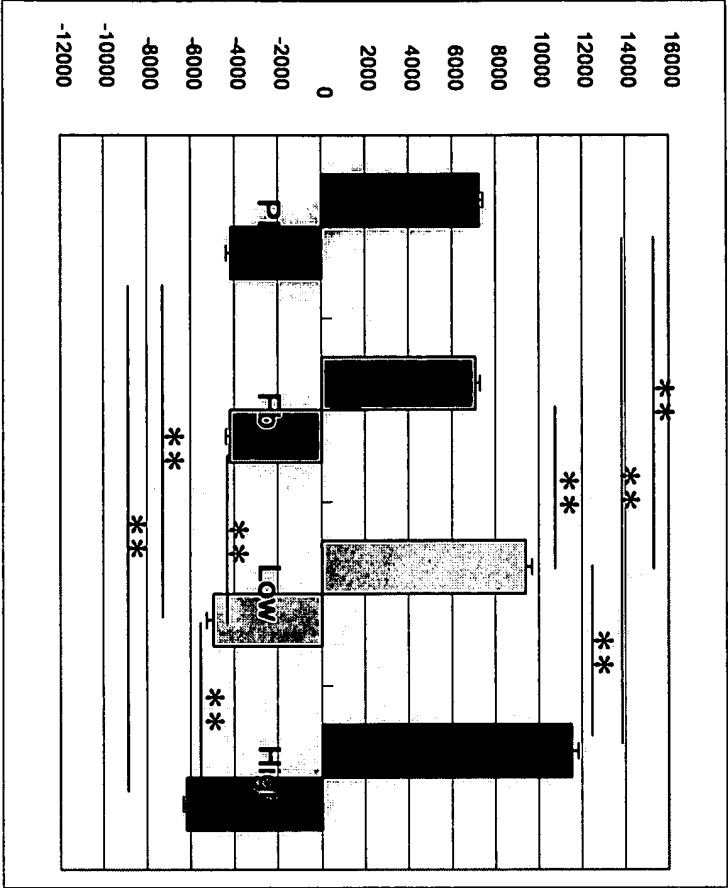
Gene-Chip Data on USSC Cardiac-Related Genes

Gene Name	USSC - P2	Unigene Description
<i>Cardiac</i>		
ATP2A2	++++	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2
ATP2A2	++++	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2
ATP5A1	+++++	ATP synthase, H+ transporting, mitochondrial F1 complex, alpha subunit, isoform 1, cardiac muscle
CARP	+	cardiac ankyrin repeat protein
CASQ2	-	calsequestrin 2 (cardiac muscle)
CDH5	+	cadherin 5, type 2, VE-cadherin (vascular epithelium)
CSRP3	+	cysteine and glycine-rich protein 3 (cardiac LIM protein)
CSX	-	cardiac-specific homeo box
DES	-	Human Desmin gene
GATA4	-	GATA-binding protein 4
GJA1	++++	cardiac gap junction protein, alpha 1, 43kD (connexin 43)
KCNQ1	++	kidney and cardiac potassium voltage-gated channel, KQT-like subfamily, member 1
MEF2C	++	MADS box transcription enhancer factor 2, polypeptide C (myocyte enhancer factor 2C)
MEF2C	++	MADS box transcription enhancer factor 2, polypeptide C (myocyte enhancer factor 2C)
MEF2D	+++	MADS box transcription enhancer factor 2, polypeptide D (myocyte enhancer factor 2D)
MYH6	+	myosin, heavy polypeptide 6, cardiac muscle, alpha (cardiomyopathy, hypertrophic 1)
MYH7	-	myosin, heavy polypeptide 7, cardiac muscle, beta
MYL2	++	myosin, light polypeptide 2, regulatory, cardiac, slow
NPPA	+	natriuretic peptide precursor A, cardiac atrium and ventricle
TNNC1	+	troponin C, slow twitch skeletal/cardiac
TNNI2	-	troponin T2, cardiac

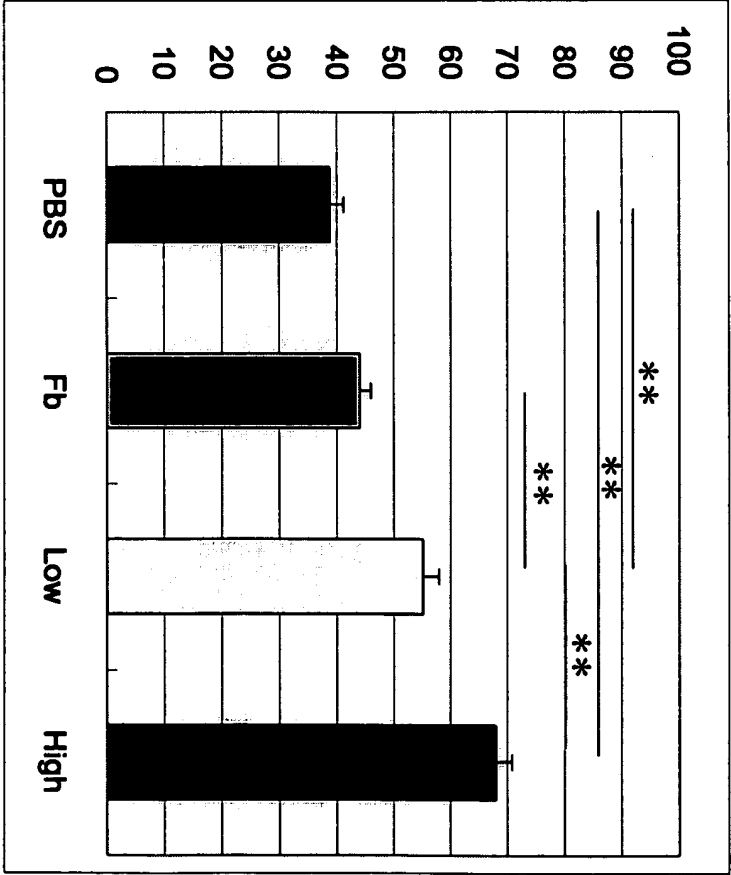
Figure 3

Cardiac function: Invasive Hemodynamic Study: mean \pm SE

$\pm dP/dt$ (mmHg/ sec)



EF (%) Day 28



N = 9 in all groups (PBS, fibroblast, low dose and high dose USSC)

A

B

Figure 4

Cord Blood Stem Cells and Cardiac Disease

Xenogeneic

Human USSCs in Porcine Model

Cell Mediated Improvement of Cardiac

Function

